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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,834	11/29/2005	Hitoshi Hashizume	0038-0479PUS1	6822
2292 7590 01/10/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER HAILEY, PATRICIA L	
			ART UNIT 1793	PAPER NUMBER
			NOTIFICATION DATE 01/10/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/558,834	Applicant(s) HASHIZUME ET AL.	
	Examiner Patricia L. Hailey	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25 is/are allowed.
- 6) ☒ Claim(s) 13-17 and 20 is/are rejected.
- 7) ☐ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/29/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Applicants' Preliminary Amendment, filed on January 20, 2006, has been made of record and entered. In this amendment, claims 1-12 have been canceled, and new claims 13-25 have been added.

Claims 13-25 are now pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on November 29, 2005.

Claim Objections

2. ***Claim 21 is objected to because of the following informalities:***

In line 3 of claim 21, the symbol after "100" should be "°C", as in "100°C/hour".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. *Claims 13, 15, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent No. 1 162 296.*

The European Patent teaches a carbon fiber woven fabric (considered to read upon the limitations "silk" and "silk material") prepared by soaking the fabric in phosphoric acid (considered to read upon the limitations of claim 15 regarding the activation treatment), and then firing in a non-oxidizing atmosphere. See paragraphs [0048], [0049], and [0052] of the European Patent.

The firing temperature is preferably 900°C or higher. See paragraph [0053] of the European Patent.

The aforementioned carbon fiber is suitable for use as a porous carbon sheet, catalyst sheet, or the like, for fuel cells. See paragraph [0058] of the European Patent.

In Figure 2 of the European Patent, reference is made to anode and cathode catalyst layers of Pt-carrying carbon black, each situated next to porous carbon sheets. See also paragraph [0060] of the European Patent.

The European Patent does not teach a temperature range of "1000°C or below", as recited in the instant claims. However, the firing temperature recited in this reference, preferably 900°C or higher, is considered to overlap Applicants' claimed range of "1000°C or below".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. In re Malagari, 182 U.S.P.Q. 549.

7. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent No. 1 162 296 as applied to claims 13, 15, 17, and 20 above, and further in view of Japanese Patent No. 11-217210.

The European Patent is relied upon for its teachings with respect to claims 13, 15, 17, and 20. Because claims 15 and 16 are identical in subject matter, but differ in terms of claim dependency, the European Patent is considered to read upon claim 16.

Although the European Patent teaches a woven fabric considered equivalent to Applicants' "silk material", the reference is silent with respect to the content of nitrogen elements therein.

The Japanese Patent teaches a product obtained by carbonizing silk at temperatures ranging from 285-420°C, to obtain a carbonized silk product having 13-20% nitrogen content. See the claims of the Japanese Patent.

The carbonized silk can be used as a carbon sheet. See paragraph [0001] of the Japanese Patent.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the carbonized silk product of the Japanese Patent for the carbon fiber woven fabric taught in the European Patent, as both have been shown to be equivalently useful as carbon sheets.

Allowable Subject Matter

8. Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 21-24 allowed, despite the informality of claim 21 addressed in the above "Claim Objections" section of this Office Action.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art cited does not teach or suggest the limitations of claims 18, 19, and 21-24.

Exemplary prior art includes:

European Patent No. 1 653 536, which teaches an electrode material comprising a carbonized silk body, having either a catalyst layer (e.g., platinum, platinum-ruthenium) or a harmful substance decomposer (e.g., a metallophthalocyanine derivative) supported thereon. The European Patent also teaches a method for producing said electrode material, said method strongly similar to Applicants' presently claimed method. However, the European Patent (which also has common inventors with the instant application) has a publication date of May 3, 2006, and is therefore disqualified as prior art.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

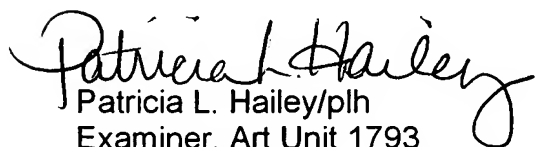
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Patricia L. Hailey/plh
Examiner, Art Unit 1793
January 4, 2008